

## Light up your yard with a candle lantern

Turn a few hours in your workshop into a project to light your backyard get-togethers

By Chris Wong

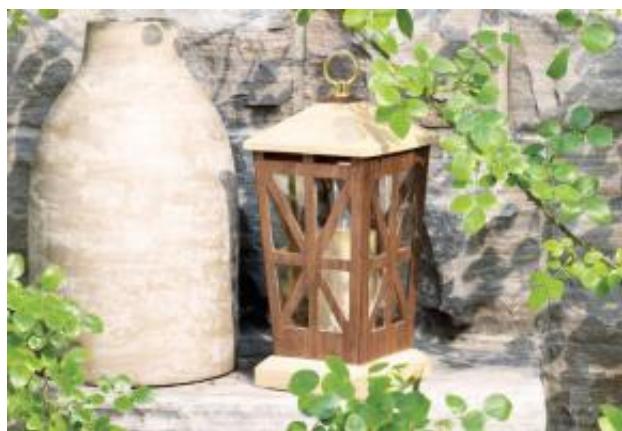


Photo by Mark Burstyn

Summer is the season to spend more time outside on the [deck](#); and while mild temperatures and good company may remain throughout the night, daylight surely won't. When the sun goes down, turning on harsh outdoor lighting will only ruin the atmosphere. To maintain the ambiance, soft lighting is the key. Combine the glow of a candle with a classy wooden housing and you have a lantern that looks great, day and night.

# Instructions

## Getting Started

First you need to choose the candle you will build your project around. From my local department store, I selected a - votive candle in a 27/16"-diameter x 23/8"-tall ceramic cup, which retains molten wax. If your candle has a diameter greater than mine, you'll need to increase the lantern dimensions accordingly.

I chose black walnut veneer for the housing and holly for the cap and base. To reflect candlelight better, I used bright-coloured maple veneer to line the inside of the housing and copper for the underside of the cap. The copper also shields the wooden cap from heat. Glass panes line the decorated housing surrounding the candle to prevent the wind from extinguishing the flame.

## Shelter from the Wind

I wanted the housing sides to appear almost transparent, without sacrificing strength. To achieve this effect, I created my own plywood by stacking two plies of walnut veneer on top of one layer of maple. As always with plywood, the grain direction of each ply needs to run perpendicularly to neighbouring plies. Stack the assembly between two flat sheets of MDF, then apply weatherproof glue, cauls and a lot of clamps. Place waxed paper around the veneer to stop glue squeeze-out from sticking to the MDF.



While the glue is drying, create a paper template with the pattern you'd like to use on the housing sides. Once dry, cut out the four sides and stack them up with a copy of the pattern on top. Use a jigsaw or scrollsaw to cut patterns through the wood.

I put air vents on two of the housing sides to keep feeding oxygen to the candle. Once you have the pattern cut on the four housing sides, remove two of them from the stack, then cut out the vent holes at the top.

With the housing sides cut to the correct size and shape, lightly sand and apply a finish to these thin parts. While this project is designed for use outdoors, it isn't likely to see much inclement weather during the summer months. However, it will get its fair share of sunshine, so choose a finish that has UV inhibitors. I used a simple spray-on lacquer for my lantern project.

On the two non-vented sides, lay out and cut rabbet joints carefully. These help with alignment and hide the light-coloured maple edge. The joint is as wide as the plywood is thick and one ply deep. This small joint is best cut using a marking gauge to mark the width, followed by a router plane, shoulder plane or chisel to shave off the thin maple ply carefully. Installing glass is the last step to complete the housing. I used 1/16"-thick glass cut to size with a carbide glass cutter. Clean the glass, then run a thin bead of silicone along the inside of the plywood and press the glass in place. Once dry, clamp the four housing parts together temporarily with elastic bands.

## Top and Bottom

The peaked cap features a walnut accent and a brass finial loop to hang the lantern. Cut the parts required according to the materials list. Next, rout a 1/4"-deep recess in the underside of the cap, then square up the corners by hand. Cut the copper piece to size (5" x 5") and epoxy it in place.

To form the peak, start by gluing the walnut accent to the top of the cap, ensuring that it's centred. Next, use a saw to cut off the bulk of the waste before refining the surface with a block plane. Finish off by scraping or sanding. Finally, flatten the top of the peak with a large Forstner bit to allow the finial to sit flat, then bore a hole matching the inside diameter of the finial to vent air.

To provide a positive grip for the housing, you'll need to chisel a 1/4"-deep recess into the base that's as wide as your plywood is thick. Lay out the recess using measurements taken from your completed housing. Use a sharp chisel to remove the waste material. Don't worry if the groove you cut is a little wider than your plywood—just use a gap-filling glue such as epoxy when assembling the joint.



## Lighting it Up

The candle sits on a square platform inserted through a matching hole in the base. This platform is rotated by 45° to hold it in place. To secure the candle, drill a 27/16"-diameter hole 1/4" deep in the top of the platform. To create clearance for your fingers when inserting the candle, the bottom of the candle holder must be narrowed. I chuck the platform in my lathe and turned a concave profile. However, the same effect can be achieved with a carving gouge or bandsaw.

Once complete, centre the candle holder on the base and trace around it. Cut out this area to allow the candle holder to pass through easily, then turn the candle holder by 45° and trace around it once again. This time, chisel four recesses in each side of the base 1/8" deep. This prevents the candle holder from rotating and falling through the base. Finish up by routing a 45° chamfer along the top edge of the base.

## Power Down

Put your tools away; it's time to apply a finish to the cap, base and candle holder. I used spray lacquer again. Pre-finishing before assembly prevents glue stains and makes any dried squeeze-out easy to remove. Before opening a bottle of glue, perform a dry-fit.

Apply a bead of glue to the recess around the perimeter of the base and the rabbets in the housing sides. Start assembly by inserting the two rabbeted sides into the base first, followed by the other two sides, using elastic bands to clamp the assembly together. Epoxy the finial loop onto the cap and the cap onto the housing.

All that's left is to remove any squeeze-out and wait for dusk.

## How to Choose Copper

The warm colour of copper makes it a great metal to add to your woodworking designs. And with this project, using copper in the roof also provides a level of protection. The candle can heat up the inside of the lantern, even with the air holes; if you leave the bare wood on the roof, it could scorch and leave burn marks. The copper protects the wood and enhances the look of your finished project.

When shopping for copper, you can go to either a craft- or metal-supply store. With the thin material you need for this lantern, the craft-supply store is likely your best bet.

Copper comes in a variety of thicknesses. For this project, pick something very thin and soft, allowing you to use hand tools. (Although a jigsaw, scrollsaw or bandsaw can cut through the soft copper with ease, be sure to use a scrap piece of wood behind the metal for safety.) Anything thicker than 5 mm and thinner than 22 mm will work for this application.

With your copper sheet in hand, you need to get it to the right size for your project. In this case, you need a 5" x 5" square piece for the roof. Use an awl to score the layout lines and a pair of tin snips to cut the piece to shape. Work slowly, with long, smooth cuts, but stop your cut before closing the snip's jaws the entire way; the sharp tip of the snip can pucker the thin copper. -Jodi Avery MacLean

## Tools and Materials

Part	Material	Size (T x W x L*)	Qty.
Cap accent	walnut	1/2" x 1 1/2" x 1 1/2"	1
Cap	holly	1 5/8" x 5 1/2" x 5 1/2"	1
Housing sides (outer)	walnut veneer	4 3/4" x 8 1/2"	8
Housing sides (inner)	maple veneer	4 3/4" x 8 1/2"	4
Base	holly	1 1/4" x 5" x 5"	1
Candle holder	holly	1 7/8" x 2 1/2" x 2 1/2"	1
Glass panes	glass	1/16" x 4 3/8" x 6 7/16"	4
Cap liner	copper	6 mm x 5" x 5"	1

\* Length indicates grain direction

# Plan

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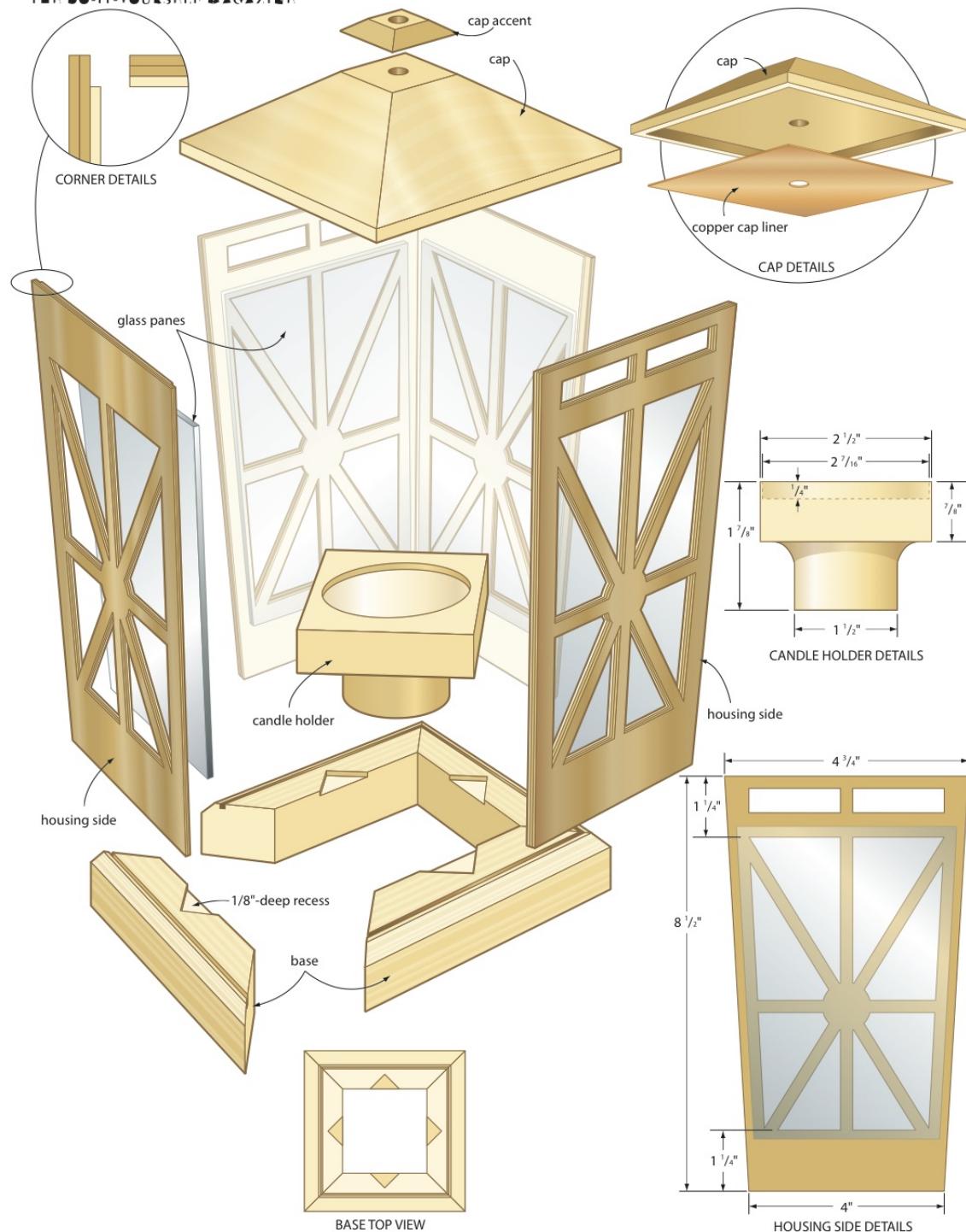


Illustration by Len Churchill